

Jupiter



Front view



Rear view

The 1999 release of the (now discontinued) PC-controlled **PEGASUS** was a technology breakthrough that revolutionized price versus performance for HF transceivers. The original **PEGASUS** has proved to be extremely popular ? but we realize dedicated PC control was not for everyone. The **JUPITER** uses the identical DSP based design packaged with a stylish front panel for conventional "hands-on" use. **JUPITER** is no ordinary HF transceiver. The TEN-TEC team of active hams focused on one major design objective. Organize all the outstanding **PEGASUS** features on a front panel that is simple and logical to use without the instruction manual tied to your wrist. So many modern HF rigs fail miserably by this measure. All of the major features are at your fingertips with a dedicated control or from a clearly marked "shift" function.

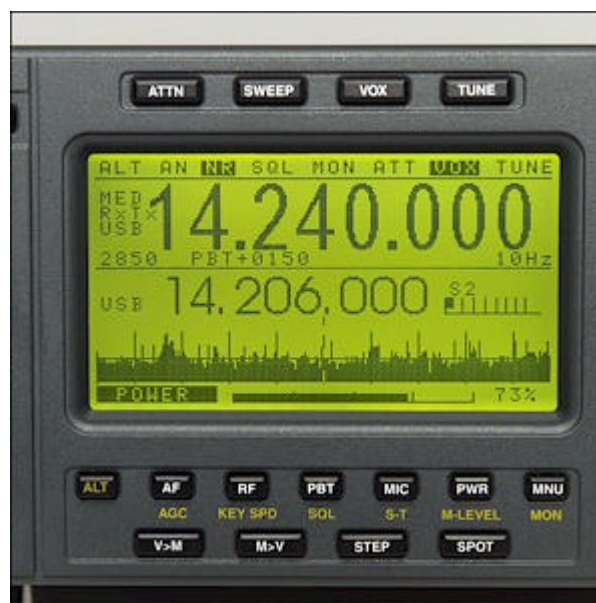
Take a look at what the **JUPITER** brings to your shack:

- ? 34 IF-DSP receive filters. 25 choices from 1050-8000 Hz for voice modes and 9 more from 300 to 900 Hz for digital and CW modes. Of course, all receive filters are selectable independent of mode.
- ? 18 different DSP-generated transmit bandwidths from 900-3900 Hz are available for SSB to give your transmit audio a well-rounded sound tailored to your voice characteristics.
- ? Software is the heart of **JUPITER** and its all stored in Flash ROM! This may be the last HF rig you ever need to buy. You simply visit the www.rfsquared.com website, download the latest firmware and its as if your rig rolled off the production line a few minutes earlier.
- ? Spectrum Sweep gives you a snapshot of the entire band in seconds! Find the pileups or scout for a clear spot automatically without touching the tuning knob.

- ? Large, multi-function, LCD graphics panel displays it all. Its almost like having a PC monitor built into your rig. You see more on the screen than could ever be possible with earlier alpha-numeric designs.
- ? Heavy duty internal automatic antenna tuner available as optional equipment. Unlike our competitors' transceivers, the internal tuner in the Jupiter is rated to match up to a 10:1 SWR.

JUPITER covers all 10 HF amateur bands, including the new 60 meter band, plus is general coverage on receive. Look at this lineup of standard features: Dual VFO's with SPLIT mode, passband tuning, adjustable AGC, variable CW offset with auto-tracking sidetone, RIT/XIT, 100% duty cycle final so rugged it doesn't require SWR foldback, and TEN-TEC's legendary silky-smooth QSK for CW and fast-switching digital modes.

The power of IF-DSP makes **JUPITER** the best value today in an HF transceiver.



The **JUPITER** features an easy-to-read LED-lit main panel display. All features and functions of the transceiver are displayed on the main panel.

Above the main frequency display are eight annunciators. Annunciators selected appear in reverse highlighted text (as NR and VOX are in this picture). To the immediate left of the main frequency readout are indicators for AGC, mode, and VFO status (RxTx). When operating SPLIT mode with the other VFO, the Tx status indicator drops down next opposite VFO frequency display to indicate transmit frequency is on the opposite VFO. Opposite VFO mode is also shown to the left of the smaller frequency display.

Immediately below the mode indicator for the main VFO is the numeral "2850" - readout for receive filtering bandwidth. The knob marked BANDWIDTH just to the left of the display panel controls selection. There are 34 built-in receive filters ranging from 300 to 8000 Hz. All filtering is selectable independent of mode.

To the right of the "2850" display is "PBT +0150". This is readout of tuning range from center for the passband tuning (PBT) control.

To the far right of the display is the "10 Hz" indicator. This is step size for the main tuning knob. There are seven selectable main tuning rates that can be selected by pushing the STEP button on the front panel.

Just below the step size indicator is the multi-function meter. In receive, the meter provides both bar graph and digital readout of incoming signal strength (note the "S2" on the meter). In transmit, the meter is selectable for digital readout of either forward power or SWR.

Near the bottom of the screen is the band sweep scope. The sweep scope is activated by pressing the SWEEP button at the top of the radio. The radio will sweep across a given range of frequencies, showing you where activity is present (or not present!). The band sweep scope has eight user-selectable ranges from 240 Hz to 2.4 MHz to show activity. There is a cursor bar (shown as vertical dashed lines) on the sweep scope as well. This is main tuning knob position. If you see a signal on the scope, you can turn the knob to move the cursor to where the band activity is.

Directly under the band sweep scope is the multi function display indicator. The series of buttons directly under the main display panel provide a variety of functions that are controlled by the MULTI knob on the front panel. Both slide rule and digital indicators are provided. Select the appropriate button and then rotate the MULTI knob to adjust.



This is a display shot of the one internal menu the **JUPITER** incorporates for selection of a variety of transceiver values. Please note that all often-used functions of the radio are NOT part of the menu system. Controls in the menu system are ones that either need to only be adjusted occasionally or are of the "set-and-forget" variety. The menu is brought onto the screen by selecting MNU on the front panel. Turn the main tuning knob to highlight a desired selection in reverse text, then turn the MULTI knob to adjust the parameter. Easy!

TX METER: Metering switchable in transmit between SWR and forward power

TRANSMITTER: Transmitter can be disabled for RX-only use.

TX FILTER B/W: 18 selectable DSP transmit bandwidths for SSB from 900-3900 Hz

KEYING LOOP: Full QSK keying loop for keying true QSK linear amplifiers

AUDIO SOURCE: Selectable to accept audio from mic jack or rear panel ACC jack.

EXT T/R DELAY: Adjustable delay for keying of non-QSK linear amplifiers.

SIDETONE FREQ: CW sidetone frequency adjustable 0-1270 Hz in 10 Hz steps. CW offset automatically tracks sidetone setting for easy zero beating.

SPOT VOLUME: For zero-beating; adjustable independent of main or sidetone volume controls.

CW QSK DELAY: Adjustable for just the "right" amount of QSK action. CW WEIGHTING: Adjustable dit:dah weighting ratio.

CW KEYER: turns internal keyer on or off and allows acceptance of mono or stereo CW key connection through KEY jack.

AUTO SWEEP: Automatically re-activates the band sweep feature for a new "look" at the band when the main tuning knob is moved out of range of the original sweep.

SWEEP RANGE: 8 selectable ranges from 240 Hz - 2.4 MHz allow small or large portions of the band to be "seen" using the SWEEP feature.

JUPITER is priced at \$ 1395 factory-direct plus shipping.

With optional internal automatic tuner, \$ 1695.

See below for information about our **GET ON HF NOW WITH JUPITER** complete station package.

ACCESSORY EQUIPMENT:

Model 706, communications desk microphone, complete with cable. \$ 99.95.

Model 701, hand microphone \$ 28.00.

Model 302J remote/encoder keypad. Allows armchair control of your **JUPITER** with a handheld main tuning knob, direct frequency entry keypad, and three function buttons that allow control of various transceiver functions. \$ 139.00.

Model 307C. Color-matched external speaker. \$ 98.00. [Click here](#) for 307C info page.

Model 310 external cooling fan. Attaches to rear heat sink. \$ 39.95.

Model 963 13.8 Vdc 25 amp switching power supply. \$ 169.00.

Ten-Tec now has a demo video available for the **JUPITER** and **ORION** HF transceivers.

The video consists of three segments. The first is a tour of the Ten-Tec factory, approximately 8 minutes long, hosted by W4PA. The second segment is 44 minutes long and is a video demonstration of the **Orion**, hosted by W4PA. The third segment is 20 minutes long and is a video demonstration of the **Jupiter** video hosted by WA4HWN.

The video is available in VHS (NTSC) and DVD formats. Priced at US postage paid in the USA and Canada. The purchase price is refundable with a future purchase of a new **Jupiter** or **Orion** HF rig. (No expiration date on the offer - a new **Jupiter** or **Orion** purchase at any time after the purchase of the video). We also make the video available on loan to clubs and organizations for viewing, please contact us at (800) 833-7373 or via sales@tentec.com

Get on HF NOW with JUPITER complete station package:

New to HF operation? Or just getting back on the air? Starting over with a new shack and new equipment? With the **Jupiter** "Get on HF NOW" package, everything you need to get on HF is included. We supply the **Jupiter** HF transceiver with internal automatic antenna tuner, model 963 power supply, model 706 desk microphone, the DVD or VHS instructional/informational video, a 102' G5RV multi-band wire antenna, and 100 feet of RG8X coax with PL-259 connectors installed for a package price of only \$ 1995, with shipping costs via UPS ground included in the continental 48 states.

Sorry, no substitutions permitted on this offer.

SPECIFICATIONS, MODEL 538 JUPITER

MODES: LSB, USB, CW, RTTY (AFSK), FM, AM.

FREQUENCY RANGE: Receive - 100 kHz to 30 MHz. Transmit - all ham bands 160-10 meters. Modifiable for MARS use with proof of licensed authority.

DISPLAY: LCD

DUAL VFOs with SPLIT mode.

OFFSET TUNING: +/- 10 kHz receive and transmit

MEMORIES: 100

FREQUENCY ACCURACY: +/-90 Hz at 25 degrees C at 30 MHz for 1 yr

ANTENNA: 50 ohms unbalanced.

POWER REQUIRED: 1.5A receive, 20A transmit @ 12-14 VDC

CONSTRUCTION: 8 epoxy glass PC boards, molded front panel, aluminum chassis, texture painted steel cover.

DIMENSIONS: HxWxD 5"x12.125"x13" (12.7x30.8x33 cm). Depth measurement includes rear panel heat sink.

WEIGHT: 11.5 lbs. (5.23 kg.)

TRANSMITTER

RF OUTPUT: 5-100 watts, ALC stabilized.

DC INPUT: maximum 250 watts @ 14 VDC. 100% duty cycle for up to 20 minutes. Continuous duty with customer supplied air cooling of rear panel heat sink.

MICROPHONE INPUT: 200 to 50K ohms. 4 pin, front panel connector accepts microphones with 5 mv (-67 dB) output. Polarizing voltage provided for electrets.

T/R SWITCHING: PTT or VOX on SSB, FAST or SLOW QSK on CW.

CW OFFSET: Programmable 400 to 900 Hz, DSP generated. Sidetone automatically matches offset, volume adjustable independent of AF GAIN control.

FM DEVIATION: +/- 5 kHz.

METERING: Switchable to forward power, reflected power or SWR.

SSB GENERATION: DSP generated

CARRIER SUPPRESSION: > 50 dB

UNWANTED SIDEBAND SUPPRESSION: > 60 dB at 1.5 kHz tone

THIRD ORDER INTERMOD: 25 dB below two tone @ 100 watts PEP

SPURIOUS OUTPUT: Better than 40 dB below peak power output.

RECEIVER

SENSITIVITY: .35uV typical for 10 dB S+N/N @ 3 kHz bandwidth, SSB mode.

SELECTIVITY: 34 filters built-in; 300 Hz, 330 Hz, 375-750 Hz in 75 Hz increments, 900-3000 Hz in 150 Hz increments, 3.3-6.0 kHz in 300 Hz increments, 8.0 kHz. All 1.5:1 shape factor or better.

DYNAMIC RANGE: 90 dB @ 3 kHz bandwidth at 50 kHz spacing.

THIRD ORDER INTERCEPT: +10 dBm

NOISE FLOOR: -126 dBm @ 3 kHz bandwidth.

S-METER: Calibrated to 50 uv at S9.

ATTENUATOR: -20 dB

PASSBAND TUNING: +/- 2 kHz

I-F FREQUENCIES: 1st I-F 45 MHz, 2nd I-F 455 kHz, 3rd I-F 12 kHz

I-F REJECTION: > 60 dB typical

IMAGE REJECTION: > 60 dB typical

RECEIVE RECOVERY TIME: less than 20ms, including split mode.

AUDIO: speaker = 1 watt @ 4 ohms, line out = 1 V p-p into 600 ohms.

all specifications subject to change without notice
last updated May 19, 2003